

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A method for performing pressure, respectively pressure profile, measurements in mammals by means of the pressure profile sensors technique, which comprises
 - a) introducing into the mammal a catheter having at least a portion of its wall which is sufficiently flexible to be deflected by external pressure;
 - b) introducing progressively into the catheter lumen an electrically conductive liquid substance while applying simultaneously to it alternative current and mechanical oscillations;
 - c) detecting by means of an electrode placed at the external surface of the subject the leakage current induced by the liquid substance traveling through the catheter;
 - d) transferring the leakage current thus recorded to a converter suitable to convert the leakage current parameters provided thereto into corresponding pressure values; and
 - e) displaying the pressure values as such, or as a function of the measurement location or measurement period or both to afford corresponding pressure profiles.
2. (original) Method of claim 1, wherein the alternative current is a low voltage/high frequency current and wherein the mechanical oscillations have controlled amplitude and frequency.
3. (currently amended) Method according to ~~claims 1 and 2~~ claim 1, wherein the catheter is made of innocuous polymer plastic material, preferably of non-conductive innocuous polymer plastic material.

4. (currently amended) Method according to ~~claims 1 to 3~~ claim 1, wherein the catheter is a single lumen or a multi-lumen catheter.

5. (currently amended) Method according to ~~claims 1 to 4~~ claim 1, wherein the electrically conductive liquid substance is an aqueous liquid, preferably a saline solution.

6. (currently amended) Method according to ~~claims 1 to 5~~ claim 1, wherein the liquid substance is progressing step-by-step through the catheter lumen.

7. (currently amended) Method according to ~~claims 1 to 6~~ claim 1, wherein the alternative current voltage applied to the liquid substance is comprised between about 500 mV and about 6 V, preferably between about 1 and about 4 V.

8. (currently amended) Method according to ~~claims 1 to 7~~ claim 1, wherein the alternative current frequency applied to the liquid substance is comprised between about 60 and 130 kHz, preferably between about 80 and 120 kHz.

9. (currently amended) Method according to ~~claims 1 to 8~~ claim 1, wherein the mechanical oscillations applied to the liquid substance have an amplitude of about max. 4 mm and a frequency of about max 15 Hz, preferably of about 2mm, respectively about 10 Hz.

10. (currently amended) Use of the method according to ~~claims 1 to 9~~ claim 1 for performing pressure, respectively pressure profile measurements in mammal body tracts or cavities such as lung, esophagus, stomach, intestine, urinary tract or bladder, or blood vessels.

11. (currently amended) Use of the method according to ~~claims 1 to 10~~ claim 1 for performing real time pressure, respectively pressure profile measurements.

12. (currently amended) Use of the method of ~~claims 1 to 9~~ claim 1 for performing ex-temporaneum pressure, respectively pressure profiles measurements by recording the pressure values provided by the converter and by displaying them at a time different from that of the leakage current recording.

13. (currently amended) An apparatus for performing the method of ~~claims 1 to 9~~
claim 1, which comprises

a source of an electrically conductive liquid substance connected to an alternative current source;

peristaltic pumping means fitted directly to the source of liquid substance;

mechanical oscillation means connected downwards to peristaltic pumping means;

an electrode placed at the external surface of the subject for recording and then transferring the detected leakage current to the converter;

a converter suitable for deriving pressure values from the leakage current parameters which have been transferred thereto; and

means suitable to display pressure values as such, or as a function of the measurement location or measurement period or both.